UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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MICROSOFT CORPORATION		
ATTN: PATENT GROUP DOCKETING DEPARTMENT	LU, KUEN S	
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SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/07/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

PTOL-90A (Rev. 10/06)

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 November 2006*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-43* is/are pending in the application.

    4a) Of the above claim(s) *15-28* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14 and 29-43* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *12/20/06*.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1. The Action is responsive to Applicant's Amendment filed November 20, 2006.

Applicant's amendment made to claims 1-2, 5-6 and 29-43, and specification is

acknowledged. Examiner's objection to specification and claims 1-2 and 29-30 in non-

Final rejection of July 20, 2006 is hereby withdrawn. Also withdrawn is 35 U.S.C. § 101

and 35 U.S.C. § 112 rejections of claims 1-14 and 29-31.

2. As to Applicant's Arguments/Remarks filed November 20, 2006, please see

Examiner's response in "***Response to Arguments***", following this Office Action for

Final Rejection (hereafter "the Action"), shown next.

3. It is acknowledged that the election made without traverse to prosecute the invention

I (Claims 1-14 and 29-41) is affirmed in the Amendment. Also acknowledged and

affirmed is Claims 15-28 withdrawn from further consideration pursuant to 37 CFR

1.142(b), as being drawn to a non-elected invention, there being no allowable generic or

linking claim.

Information Disclosure Statement

4. The Information Disclosure Statement filed December 20, 2006 has been

considered. Corresponding PTO-1449s is electronically signed as attached.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth
in section 102 of this title, if the differences between the subject matter sought to be patented and the
prior art are such that the subject matter as a whole would have been obvious at the time the invention
was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability
shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5.1. Claims 1-14 and 29-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Kubota (U.S. Patent 6,041,323) in view of Charnock et al. (U.S. Patent Application 2003/0182310, hereafter "Charnock").

As per claims 1 and 29, Kubota teaches "A method" and "A computer readable storage medium containing instructions for executing a method" (See col. 9, lines 3-9 where storage medium stores program codes providing instructions to implement method for information searching) for **"dynamically updating a collection of information in a database including a plurality"** set of **"information for publication"** (See col. 1, line 60 – col. 2, line 5 and col. 9, lines 38-40 where contents and features of contents of a document change over time and a database is provided to store documents for newspaper account and patent publications, it is noted document change occurs over time is the document being updated dynamically)

It is acknowledged that Kubota does not explicitly teach that the set of pre-existing information (the documents stored) exists in the form of cluster of information.

However, in addition to teaching detecting dynamic update of files in a file system (See Charnock: Fig. 36a and Page 48, [0909]), Charnock teaches documents are grouped according to its similarity and context and groups of documents are clustered in a hierarchical structure of clusters (See Page 2, [0063] and Pages 15-16, [0304]).

It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention was made to combine the teaching of Charnock with Kubota reference by applying Charnock's context based techniques of searching multiple documents considered as a combined unit meeting search criteria to Kubota's document search environment where document content's features and concepts changes over time, and further updating existing cluster with updated information because both references are directed to documents searches and the combined teaching would have enabled Kubota's users to input complicated search concepts with simple operation and to group extracted documents into clusters, and without the need to accurately understand the search keyword as required by keyword of field searches, and further, an existing cluster could have been updated by incrementing links for sharing cluster among applications.

The combined teaching of the Charnock and Kubota references further teaches the following:

"a) extracting from received information a set of characterizing features which characterize the received information" (See Kubota: col. 1, lines 17-20, 49-51 and 60-61 where searching is perform by inputting unique character strings for subject matter of interest or inputting expressions for extracting search keys and using extracted search keys to perform search on documents whose contents' concepts or features are changes over time); and

"b) updating the collection of information by grouping the received information with one or more pre-existing clusters in the collection that have characterizing features in

common with the received information" (See Kubota: col. 1, line 60 – col. 2, line 5 and

col. 9, lines 38-40 where contents and features of contents of a document change over

time and a database is provided to store documents for newspaper account and patent

publications, it is noted document change occurs over time is the document being

updated dynamically, and Charnock: Page 2, [0063] and Pages 15-16, [0304] where

documents are grouped according to its similarity and context and groups of documents

are clustered in a hierarchical structure of clusters); and

"c) **publishing at least a portion of the updated collection of information based on**

a customer request for information" (See Charnock: Pages 15-16, [0304] where

documents are grouped according to its similarity and context and groups of documents

are clustered in a hierarchical structure of clusters, Kubota: col. 2, lines 55-65 where

user inputs search sentence to extract unique string for searching and allocating a set of

documents).

As per claims 2 and 30, the combined teaching of the Charnock and Kubota

references further teaches "the received information comprises a combination of one or

more of text data, image data, and video data" (See Charnock: Page 2, [0063] and

Pages 15-16, [0304] where related documents of text data are grouped and groups of

documents are clustered in a hierarchical structure of clusters).

As per claims 3 and 31, the combined teaching of the Charnock and Kubota

references further teaches "received information comprises multiple features of a given

type and wherein the multiple features are ranked in importance as the features are

extracted" (See Kubota: col. 13, lines 7-9 and 46-53, and col. 5, lines 44-53 where a

unique character string as a feature of input document is extracted and the candidate

character string is selected based on comparison of appearances between input

document and comparison document, and Charnock: Page 33 where ranks are

assigned to items based on the basis of evidence accumulated during items in the

information set).

As per claims 4 and 32, the combined teaching of the Charnock and Kubota

references further teaches "a cluster includes a summarization of cluster features and

additionally comprising comparing the features that summarize newly received

information with features summarized in a cluster by taking an inner product of the

features common to the newly received information and the features that summarize

said cluster and combining the newly received information with a cluster if the inner

product exceeds a threshold" (See Charnock: Page 2, [0063], Pages 15-16, [0304] and

Page 11, [0233] where documents are grouped according to its similarity and context

and groups of documents are clustered in a hierarchical structure of clusters and

clustering is completed by summarizing the arc weights, products of two arch weight

parts).

As per claims 5 and 33, the combined teaching of the Charnock and Kubota

references further teaches "a number of features of rank of a newly received item of

information are compared with a corresponding number of features of a cluster to
determine if said information is added to a cluster" (See Kubota: col. 13, lines 7-9 and
46-53, and col. 5, lines 44-53 where a unique character string as a feature of input
document is extracted and the candidate character string is selected based on
comparison of appearances between input document and comparison document, and
Charnock: Page 33 where ranks are assigned to items based on the basis of evidence
accumulated during items in the information set).

As per claims 6 and 34, the combined teaching of the Charnock and Kubota
references further teaches "each feature has a relevancy factor by which the feature is
scaled and additionally determining if a cluster and the newly received information have
at least a number of common features having non-zero relevancy factors before adding
the received information into a cluster" (See Charnock: Fig. 33 and Page 45, [0862]-
[0863] where members in a cluster is ranked in according to match coefficients and its
multiplication with importance, and match coefficients are the attributes of specified
query).

As per claims 7 and 35, the combined teaching of the Charnock and Kubota
references further teaches "grouping together clusters having a common characteristics
to produce a neighborhood of clusters which are all published in response to a customer
request" (See Charnock: Fig. 33 and Page 45, [0862]-[0863] where clusters are ranked

according to how well the canonical member matches the values of most important attributes specified in query and further).

As per claims 8 and 36, the combined teaching of the Charnock and Kubota references further teaches "the received information is a text containing document and a relevancy of a neighborhood is used to determine whether to publish documents in a neighborhood to a customer" (See Charnock: Page 2, [0063], Pages 15-16, [0304] and Page 45, [00874] where related documents of text data are grouped, and results of ranking process are shown in the order of highest scores relative to query).

As per claims 9 and 37, the combined teaching of the Charnock and Kubota references further teaches "the relevancy varies with how long the document has been in the neighborhood" (See Charnock: Pages 47-48, [0906] where mean time to the next related event of an item in a cluster is measured and its pending flag removed should there be no related event occurring during the mean time).

As per claims 10 and 38, the combined teaching of the Charnock and Kubota references further teaches "the relevancy varies with information contained in the request for information" (See Charnock: Fig. 33 and Page 45, [0862]-[0863] where members in a cluster is ranked in according to match coefficients and its multiplication with importance, and match coefficients are the attributes of specified query).

As per claim 11, the combined teaching of the Charnock and Kubota references further teaches "an item of received information may be grouped into more than one cluster but published with only one neighborhood" (See Kubota: col. 3, 4-15 where a different unique character strings retrieve the same document into different groups, and Charnock: Page 2, [0063], Pages 15-16, [0304] and Page 45, [00874] where related documents of text data are grouped, and results of ranking process are shown in the order of highest scores relative to query).

As per claims 12 and 39, the combined teaching of the Charnock and Kubota references further teaches "maintaining a null neighborhood and adding received information to the null neighborhood when said information is initially received" (See Page 14, [0280] and Page 45, [0860]-[0869] where template document is set null if none is selected and clustering analysis utilizes ordinal ranking and importance scale to rank items and score starts with 0 while user's query specification taking precedence over all any partial scoring mechanism).

As per claims 13 and 40, the combined teaching of the Charnock and Kubota references further teaches "maintaining a null neighborhood and adding received information to the null neighborhood when contents of a neighborhood change due to a reconstituting of said neighborhood" (See Page 45, [0860]-[0869] where clustering analysis utilizes ordinal ranking and importance scale to rank items and score starts

with 0 while user's query specification taking precedence over all any partial scoring mechanism).

As per claims 14 and 41, the combined teaching of the Charnock and Kubota references further teaches "maintaining a null neighborhood and adding received information to the null neighborhood when a neighborhood to which the received information becomes non-relevant" (See Page 45, [0860]-[0869] where clustering analysis utilizes ordinal ranking and importance scale to rank items and score starts with 0 while user's query specification taking precedence over all any partial scoring mechanism).

As per claims 42 and 43, the combined teaching of the Charnock and Kubota references further teaches "updating the collection of information by forming a new cluster containing the received information if there are no pre-existing clusters in the collection that have characterizing features in common with the received information" (See Kubota: col. 1, line 60 – col. 2, line 5 and col. 9, lines 38-40 where contents and features of contents of a document change over time and a database is provided to store documents for newspaper account and patent publications, it is noted document change occurs over time is the document being updated dynamically, and Charnock: Fig. 17a and Page 15, [0300] where a cluster is updated by incrementing links and nodes).

Conclusion

6. The prior art made of record

   A. U.S. Patent Application 2003/0182310

   B. U.S. Patent No.   6,041,323

6.1. The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

   C. U.S. Patent Application 2005/0022114

   D. U.S. Patent No.   6,029,195

   E. U.S. Patent Application 2003/0061200

   F. U.S. Patent Application 2003/0050927

   G. U.S. Patent Application 2002/0069218

Response to Arguments

7. As to Applicant's Arguments, filed on November 9, 2006, has been fully considered,

please see discussion below:

At Page 17, concerning claims 1 and 29, Applicant argued that the cited Kubota and

Charnock references does not teach features described by newly amended claim

language.

As to the above argument, Examiner respectfully submits that, in corresponding to

amendment made to the claims, Examiner has addressed the amended language in the

Action. Also please note, in the Action, Examiner has maintained the same grounds of

rejection, by citing the same Kubota and Charnock references, as set forth in the non-

Final Office Action of July 20, 2006.

Conclusion

8. Applicant's amendment necessitated the new grounds of rejection presented in this Office Action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kuen S Lu whose telephone number is (571) 272-4114. The examiner can normally be reached on Monday-Friday (8:00 am-5:00 pm). If attempts to reach the examiner by telephone pre unsuccessful, the examiner's Supervisor, John Cottingham can be reached on (571) 272-7079. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for Page 13

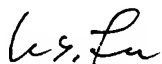published applications may be obtained from either Private PAIR or Public PAIR.

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you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 886-217-9197 (toll-free).

Kuen S. Lu

Patent Examiner, Art Unit 2167

February 5, 2007

HOSAIN ALAM
SUPERVISORY PATENT EXAMINER